Meeting WISHA Training Requirements

- To meet the WISHA training requirements for lockout/tagout, you must include information specific to your worksite as indicated in slides # 7, 21 and 23.
- Preview this program and include your specific workplace information before conducting the training.
- It is recommended you keep an attendance roster for your records to document training

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How to Use this PowerPoint Program

- Users with PowerPoint can download, edit, and use the program for training with a laptop and multimedia projector.
- Additional information is found in the Notes section of this presentation. You can read the text in quotations, or use your own words.
- If you want to print out this program, the PDF file uses less computer memory and prints faster.

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Lockout/Tagout

What This Training Will Cover:

Who needs training?

What is hazardous energy?

What is lockout/tagout?

What are the different types of lockout devices?

What is the requirement for tags?

What lockout/tagout procedures are required?

1

Who Needs Training?

Authorized employees –people who lock or tag out machines or equipment to perform servicing.

Affected employees –people who use machines or equipment on which servicing is performed under lockout/tagout.

Other employees –people who work in the area of locked out machinery or equipment

2

What is Hazardous Energy?

Hazardous energy is one of the following:

Electricity – live or stored

Moving machinery parts

Stored mechanical movement in machinery

3

What is Hazardous Energy?

Stored heat (steam lines or hot liquids)

Chemicals in pipelines under pressure or force of gravity

Any other active or stored energy sources that could harm a worker

4

Hazardous Energy Source Examples

Live electrical lines

Electrical capacitors

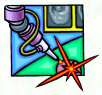
Lasers

Engines that move machinery parts

Hydraulic lifts

Pneumatic (air pressure) lines

Springs



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Lockout/Tagout and Confined Spaces

Lockout/Tagout is important in confined spaces since it is easy to get trapped and hard to escape.

Pipelines leading into tanks must be blanked off before entering the space.

All electrical and mechanical hazardous energy must be addressed and locked out or tagged as needed.

6

Our Hazardous Energy Sources

We have evaluated this workplace and found the following hazardous energy sources requiring lockout/tag-out procedures:

List specific workplace hazardous energy sources here

7

What kind of injuries can happen?

Electrocution from live parts

Scalding from steam or hot liquids

Chemical burns or poisoning

From machinery:

- Deep cuts and gashes
- Crushing injuries
- Amputations

All of these can be fatal when severe

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Fatality Example

A man working inside a supermarket cardboard compactor was crushed when the unblocked compactor suddenly came down on top of him.

Link to other fatality examples

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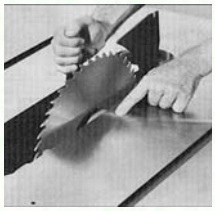
When is Lockout/Tag-out required?

When someone will be servicing or repairing machinery or equipment

AND

the unexpected machinery start-up or release of stored energy could cause injury



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Service and Maintenance Examples

Installing, constructing,

adjusting, modifying,

unjamming, cleaning,

lubrication, inspecting,

setup - preparing for normal function

These activities often require a worker to place all or part of their body into the machine's hazard zone.

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What is an energy-isolating device?

A device that physically prevents transmission or release of energy such as:

An electrical circuit breaker,

A pipeline valve,

A machine block,

Anything else that positively blocks or isolates energy.

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What is a Lockout Device?

A device that positively:

prevents a machine from being started up or turned on,

prevents a machinery part from moving,

prevents electrical energizing,

blocks a pipeline, steam line or air line

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Electrical Lockout Devices

Locked out electrical panel

Locked out circuit breaker

Locked out electrical plug

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Fluid & Gas Lockout Devices

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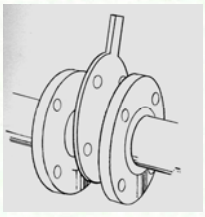
Pipe Lockout Examples



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Pneumatic Lockout Examples

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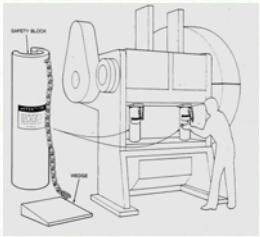
Physical Blocks

Truck bed lockout



Punch press blocks

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Group Lockout Devices

Used when more than one person doing maintenance or repair on same machine or equipment.

Machinery or equipment can't be started up until all locks are removed.

Each person places and removes their own lock.

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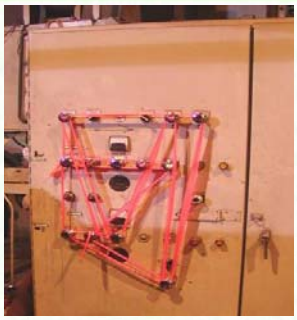
Example of a bad lockout/tagout



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Lockout Devices We Use

Describe or show your lockout devices here and why they are used.

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What is Tag-out?

Tags are warning devices only

They don't provide the same level of protection as lockout devices.

They can only be removed by an authorized person.

They must be legible, securely attached and resistant to degradation.

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Energy Control Program

Describe or discuss your company's energy control program here. Include specific procedures for each machine.

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Lockout Procedures

Six Steps to Follow:

1. Notify affected employees that machine or equipment will be shut down and locked out
2. Shut down the machinery or equipment
3. Isolate energy sources with energy-isolating devices

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Lockout Procedures

Six Steps

4. Lock out energy-isolating devices with assigned locks.
5. Release or restrain stored or residual energy
6. Test machinery to make sure it can't start up

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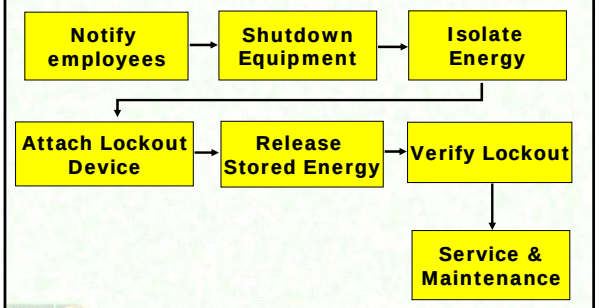
Lockout Steps



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Examples of Release of Stored Energy

- "Slowly open the receiver tank port and bleed off any internal pressure."
- "Loosen both line valves to relieve all pressure in the cooling circuit."
- "Ground out capacitor…"

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Examples of Attempt to Operate

- "…adjust the temperature cycle thermostat to check that all electrical energies have been shut off."
- "Push the start function button to verify that electric power has been removed."
- "Crack the steam inlet and discharge line outlet valves…"

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Start-up Procedures

Only authorized employee can do startup

All warned to stay clear

Remove all tools, locks and tags

Remove, reverse, open or reactivate isolating devices

Visual check that all is clear

Start up machine, process or line flow

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Quiz

Question 1

Which of the following is not hazardous energy?

a) Electricity
b) Compressed air
c) Steam
d) Cold water in a pipe

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Quiz

Question 2

When are warning tags alone O.K?

a) Always
b) Never
c) When everyone knows what they mean
d) When there is no alternative

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Quiz

Question 3

When can you not follow lockout procedures?

a) When the foreman says so
b) Never
c) If you know where everyone is
d) When needed to meet a deadline

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